GIBASIS PELLUCIDA (COMMELINACEAE), A NEW AND POTENTIALLY WEEDY GENUS AND SPECIES FOR TEXAS

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ABSTRACT

Gibasis pellucida (Commelinaceae) is reported as a new naturalized weed in Texas. A description of the species and key to Texas genera of Commelinaceae are provided.

RESUMEN

Gibasis pellucida (Commelinaceae) se cita como una nueva mala hierba naturalizada en Texas. Se aporta una descripción de la especie y una clave de los géneros de Commelinaceae de Texas.

Gibasis Raf. (Commelinaceae), comprising 11 species, has a neotropical distribution centered in Mexico (Hunt 1986, 1993, 1994; Faden 2000). *Gibasis pellucida* (M. Martens & Galeotti) D.R. Hunt is native to México, mainly on the Atlantic side, and possibly El Salvador, occurring in moist shady places, such as forests and woodlands to 2200 m (Hunt 1986, 1994). In the United States it is mainly grown as an ornamental, but it also occurs as an introduced weed in citrus groves, disturbed sites, and waste places in Florida (Wunderlin 1998; Faden 2000). It has not been previously reported outside of cultivation from Texas (Correll & Johnston 1970; Hatch et al. 1990; Jones et al. 1997).

Recent collections from Galveston and Harris Counties suggest that *Gibasis pellucida* has naturalized in at least three locations in Texas. Plants appear to escape from cultivation, establish and spread readily in disturbed riparian areas under broken- to closed-canopy forests. The species might continue to spread into less disturbed areas, potentially becoming a pernicious weed in Texas and eventually throughout the southeast coastal plain.

The species propagates vegetatively by means of decumbent stems rooting at the nodes followed by fragmentation or death of the older parts. A few seeds have been found on *Rosen 3026* (BRIT) which demonstrates the species' potential to reproduce sexually, although it is usually self-incompatible (Hunt 1986). Potentially, the seeds could have been formed through apomixis, but apomixis has not been reported in Commelinaceae, so sexual reproduction seems more likely.

The following is a key to the Texas genera of Commelinaceae and a description of *G. pellucida*. With the addition of *Gibasis*, all native and naturalized genera of Commelinaceae in the U.S. are now recorded from Texas (Faden 2000).

KEY TO TEXAS GENERA OF COMMELINACEAE

1. Flowers sessile or subsessile; petals inconspicuous; ovary and capsule bilocular ____ **Callisia repens**
1. Flowers distinctly pedicellate; petals conspicuous; ovary and capsule trilocular.
   2. Inflorescences composed of pairs of contracted, sessile, umbel-like cymes; stamens 6, all fertile
      3. Cyme pairs enclosed in or subtended by pairs of large, conspicuous, spathaceous or foliaceous bracts; plants usually not mat-forming ____ **Tradescantia**
      3. Cyme pairs subtended by small inconspicuous bracts; plants mat-forming ____ **Callisia micrantha**
   2. Inflorescences composed of individual, often elongate, pedunculate, usually not umbellate cymes; stamens 6 or fewer, usually some staminodial (rarely all fertile).
      4. Inflorescences enclosed in or closely subtended by leafy bracts (spathes); flowers strongly bilaterally symmetric
         5. Stamens 6, all fertile, some filaments bearded; foliage glaucous ____ **Tinantia anomala**
         5. Stamens 6(–5), polymorphic, 3 fertile and 3(–2) staminodial, all filaments glabrous; foliage not glaucous ____ **Commelina**
      4. Inflorescences not enclosed in or closely subtended by leafy bracts; flowers radially or weakly bilaterally symmetric.
         6. Flowers weakly bilaterally symmetric; petals pinkish purple to violet; stamens 6, 2 fertile and 4 staminodial; annuals ____ **Murdannia nudiflora**
         6. Flowers radially symmetric; petals white, stamens 6, all fertile; perennials ____ **Gibasis pellucida**

Gibasis pellucida (M. Martens & Galeotti) D.R. Hunt (**Fig. 1**). TAHITIAN BRIDAL-VEIL; BRIDAL-VEIL. *Tradescantia pellucida* M. Martens & Galeotti, Bull. Acad. Roy. Sci. Bruxelles 9:376. 1842. *Gibasis pellucida* (M. Martens & Galeotti) D.R. Hunt, Kew Bull. 38:132. 1983. TYPE: MEXICO: *Galeotti* 4996 (HOLOTYPE: BR).

Tradescantia schiedeana Kunth, Enum. Pl. 4:90. 1843. *Tradescantia geniculata* var. *schiedeana* (Kunth) C.B. Clarke, Monogr. Phan. 3:301. 1881. *Gibasis schiedeana* (Kunth) D.R. Hunt, Curtis's Bot. Mag. 179: pl. 636. 1972. TYPE: MEXICO: *Schiede* 975 (HOLOTYPE: B).

Herbs, perennial, decumbent, rooting at the nodes, nearly glabrous or sparsely pubescent. Roots fibrous. Leaves 2-ranked, decreasing in size distally on the flowering shoots, blade sessile, narrowly lanceolate to ovate-elliptic, 3–7 × 0.7–2.5 cm, base oblique, apex usually acuminate, margins scabrous, surfaces usually glabrous; sheaths with a vertical line of pubescence, ciliate at the apex. Inflorescences terminal and also axillary from the distalmost, reduced leaves, composed of pairs of umbel-like, pedunculate cymes; spathaceous bract absent; bracteoles persistent. Flowers bisexual, radially symmetric; pedicels 5–15 mm long; sepals free, subequal, 2–2.5 mm long; petals free, equal, not clawed, broadly ovate, ca. 5 mm long, white; stamens 6, equal, all fertile, filaments bearded at the base and above the middle; ovary 3-locular; ovules 2 per locule, 1-seriate. Capsules 3-valved, 3-locular. Seeds 2 per locule, ovate to elliptic in outline, ca. 1 mm long, testa gray, rugose, hilum linear; embryotega dorsal.

Voucher specimens: **TEXAS. Galveston Co.**: on private property about 100 m N of the intersection of FM 528 and Clear Creek, an apparent escape from an abandoned and overgrown home-site, frequent

FIG. 1. *Gibasis pellucida* (M. Martens & Galeotti) D.R. Hunt (*Rosen 3026*—US3463486).

in swales of floodplain forest with *Carya aquatica*, *Celtis laevigata* var. *laevigata*, *Quercus nigra*, *Q. similis*, *Ulmus americana*, and *U. crassifolia*, N29° 31' 07.6" W95° 10' 45.1", 13 Aug 2003, *Rosen 2583* (BRIT, SBSC). **Harris Co.:** Houston, in the flood plain of White Oak Bayou, about 0.6 mi. SW of the intersection of Hwy. 610 and Ella Blvd., a local green-space known as Little Thicket Park with about 7 acres of disturbed remnant riparian forest, abundant herb forming thick cover in shaded forest floor with *Acer* sp., *Platanus occidentalis*, *Populus deltoides*, *Fraxinus pennsylvanica*, *Salix nigra*, and *Ulmus* spp., N29° 48' 24.0" W95° 25' 53.8", 26 Jul 2004, *Rosen 3026* (BRIT, SBSC, TEX, US); floodplain forest adjacent to the San Jacinto River, S of Highland Shores Drive, 2 miles W of its intersection with FM 2100, S of Crosby, locally common on forested terrace above slough with *Celtis laevigata* var. *laevigata*, *Halesia diptera*, *Liquidambar styraciflua*, *Platanus occidentalis*, *Quercus michauxii*, *Ulmus americana*, and *U. crassifolia*, N29° 50' 06.2" W95° 05' 26.3", 09 November 2004, *Rosen & Yeargan 3201* (BRIT, SWSL, VSC, US).

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